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(71) Applicant (for all designated States except US): AMER-  
SHAM HEALTH R & D AB [SE/SE]; Medeon, Per Albin  
Hanssons vag 41, S-20512 Malmo (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ARDENK-  
JAER-LARSEN, Jan, Henrik [DK/SE]; Amersham  
Health R & D AB, Medeon, Per Albin Hanssons vag 41,

S-20512 Malmo (SE). AXELSSON, Oskar [SE/SE];  
Amersham Health R & D AB, Medeon, Per Albin  
Hanssons vag 41, S-20512 Malmo (SE). JOHANESSON,  
Haukur [IS/SE]; Amersham Health R & D AB, Medeon,  
Per Albin Hanssons vag 41, S-20512 Malmo (SE).

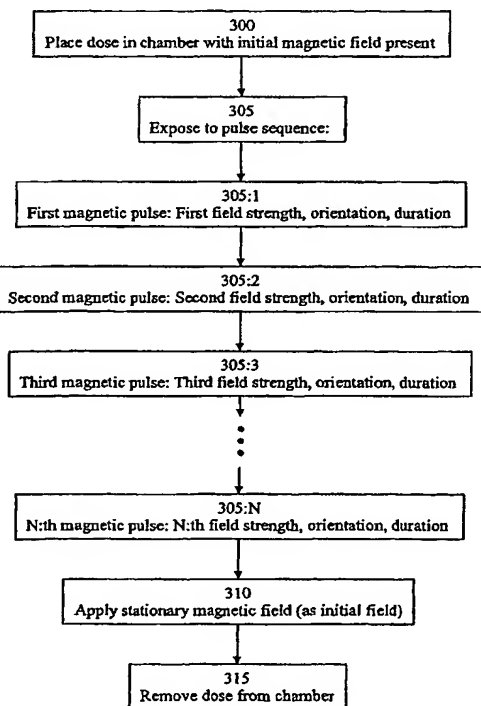
(74) Agents: FRANKS, Barry et al.; Amersham plc, Amer-  
sham Place, Little Chalfont, Buckinghamshire HP7 9NA  
(GB).

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(54) Title: METHOD AND APPARATUS FOR PRODUCING CONTRAST AGENTS FOR MAGNETIC RESONANCE IMAG-  
ING



(57) Abstract: The present invention relates to an arrangement and a method for providing contrast agent for e.g. MRI (Magnetic Resonance Imaging) and NMR (Nuclear Magnetic Resonance) applications. The method according to the invention comprises the steps of obtaining (100) a solution in a solvent of a hydrogenatable, unsaturated substrate compound and a catalyst for the hydrogenation of a substrate compound, hydrogenating (110) the substrate with hydrogen gas (H<sub>2</sub>) enriched in para-hydrogen (p-<sup>1</sup>H<sub>2</sub>) to form a hydrogenated contrast agent and exposing (120, 305) the contrast agent to a sequence of pulses of magnetic field. The apparatus comprises a magnetic treatment unit (240) equipped with means for producing pulses of magnetic field.

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